

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/806,531	ADESSI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Frank W. Lu	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/13/2006.
2. ☒ The allowed claim(s) is/are 1-18,35 and 36.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>5/2006</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>7/2001</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                             | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                       |
|  | 9. <input type="checkbox"/> Other _____.   |

Art Unit: 1634

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's response to the office action filed on April 13, 2006 has been entered. The claims pending in this application are claims 1-18, 35, and 36.

### ***Reasons for Allowance***

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Sarah Fashena (Reg. No. 57,600) on May 2, 2006.

3. The application has been amended as follows:

In the specification:

Delete "and is entirely incorporated by reference" in lines 5 and 6 of page 1 of the specification.

In the claims:

3. (Currently amended) The method of claim 1, wherein two different colony primers X are mixed with the at least one nucleic acid template in step (2) of claim 1, and wherein [the sequences of the two different colony primers X are such that] the oligonucleotide sequence Z can hybridise to one of the colony primers X and the oligonucleotide sequence Y is the same as the sequence of one of the colony primers X.

Art Unit: 1634

4. (Currently amended) A method for amplification of at least one nucleic acid, comprising the following steps:

- (1) forming at least one nucleic acid template comprising the at least one nucleic acid to be amplified, wherein the at least one nucleic acid contains an oligonucleotide sequence Y at the 5' end and an oligonucleotide sequence Z at the 3' end, and the at least one nucleic acid carries a means for immobilizing the at least one nucleic acid to a solid support at the 5' end;
- (2) mixing the at least one nucleic acid template, in the presence of the solid support, with one or more degenerate colony primers X, each of which can hybridize to the oligonucleotide sequence Z [an oligonucleotide sequence in the at least one template at a site flanking the at least one nucleic acid sequence which is to be amplified] and carries a means for immobilizing the colony primer to the solid support at the 5' end, whereby the 5' ends of both the at least one nucleic acid template and the colony primers are immobilized to the solid support; wherein said 5' ends of both the at least one nucleic acid template and the colony primers are immobilized to said solid support such that they cannot be removed by washing with water or aqueous buffer under DNA-denaturing conditions, and
- (3) performing one or more nucleic acid amplification reactions on the immobilized nucleic acid template, so that nucleic acid colonies are generated.

11. (Currently amended) The method of claim 10, wherein said means for immobilizing the at least one nucleic acid template and the colony primers [nucleic acid sequences] covalently to the solid support is a chemically modifiable functional group.

14. (Currently amended) The method of claim 1, wherein said solid support to which said 5' ends of both the at least one nucleic acid template and the colony primers are immobilized is

Art Unit: 1634

selected from the group consisting of latex beads, dextran beads, polystyrene [,] and polypropylene surfaces, polyacrylamide gel, gold surfaces, glass surfaces, and silicon wafers.

16. (Currently amended) The method of claim 1, wherein the density of the nucleic acid colonies on the solid support is 10,000/mm<sup>2</sup> to 100, 000/mm<sup>2</sup>.

17. (Currently amended) The method of claim 1, wherein the density of the colony primers X attached to the solid support is at least 1 fmol/mm<sup>2</sup>.

18. (Currently amended) The method of claim 1, wherein the density of the nucleic acid templates is 10,000/mm<sup>2</sup> to 100, 000/mm<sup>2</sup>.

4. The following is an examiner's statement of reasons for allowance:

Claims 1-18, 35, and 36 are allowable in light of the examiner's amendments and terminal disclaimer filed on April 13, 2006. The closest prior art in the record are Adams *et al.*, (WO 96/04404, published on February 15, 1996), Adams *et al.*, (US Patent No. 6,060,288, filed on February 14, 1997), Huang (US Patent No. 5,645,994, filed on June 6, 1995), Bukh *et al.*, (US Patent No. 5,514,539, published on May 7, 1996), Hildebrand *et al.*, (US Patent No. 6,287,764 B1, priority date: February 11, 1998), Lund *et al.*, (Nucleic Acids Research, 16, 10861-10880, 1988), and Fodor *et al.*, (US Patent No. 5,800,992, filed on June 25, 1996). These references do not teach or suggest that 5' ends of both at least one nucleic acid template and colony primers are immobilized to the same solid support. These prior art either alone or in combination with the other art in the record do not teach or reasonably suggest a method for amplification of at least one nucleic acid which comprises all of the limitations recited in claims 1 and 4.

Any comments considered necessary by applicant must be submitted no later than

Art Unit: 1634

the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CAR § 1.6(d)). The CM Fax Center number is (571)273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Lu, Ph.D., whose telephone number is (571)272-0746. The examiner can normally be reached on Monday-Friday from 9 A.M. to 5 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached on (571)272-0735.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

May 3, 2006



FRANK LU  
PRIMARY EXAMINER



WO 00/18957

# REPLACEMENT SHEET

PCT/GB99/03248

please enter  
5/3/2006

2 / 10

FIG. 1  
CONT'D

